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Protecting the workforce • What to expect from computers
Mobay's supplier audit system • Murray on battle of forms

THE BUYER'S MAGAZINE *APRIL 1990*

Packaging outlook: Available at good prices

Tough inserts stack up

Buying for the OFFICE

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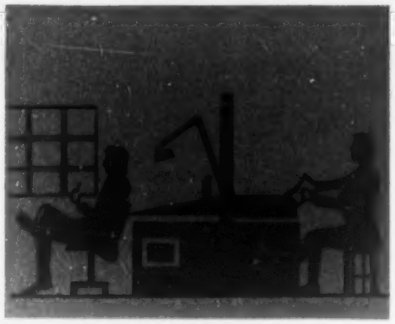

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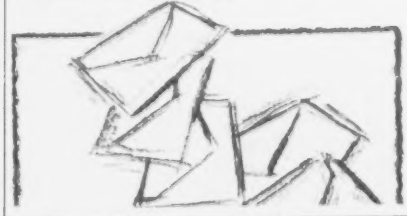

PurchasingWorld

PW POINTERS

Survey profiles the "typical" meeting

The typical meeting in corporate America is a staff meeting held in a company conference room for just under two hours, indicates a survey conducted by the Annenberg School of Communications at the University of Southern California. According to the survey, the typical meeting begins at 11 a.m., has no written agenda distributed in advance and is attended by nine people—usually two managers, four coworkers, two subordinates, and one outsider. Most or all those attending participate and handouts are used.

Four steps to negotiated air fares

If your company has significant air travel volume you can negotiate reduced airfares or a waiver of restrictions, say the consultants at Day Partnership Inc., Oakbrook, IL. Here's how: determine your dollar volume and/or number of trips you take between specific cities, determine what share of your air travel is on specific airlines, determine what airlines you use most frequently in terms of dollars spent or number of trips, and determine the capabilities of your travel agency to negotiate with the airlines. Airlines are more than ready, according to the consultants, to negotiate when increased market share will result.

Get PMs talking to inventory managers

Integrating purchasing and inventory management can reduce the total cost of procurement, says the management consulting firm of Temple, Barker & Sloane, Lexington, MA. Traditional purchasing managers want to keep unit costs low by maintaining high-volume orders. In contrast, inventory managers want low-volume orders in order to generate high turnover and maximize return on investment. The consulting firm says that integration can be as simple as increasing communication and cooperation without making any organizational changes.

Briefing service sends timely news

Western Union Corporation has introduced the Executive Briefing Service™ to automatically deliver business news and timely information on individually selected topics to a customer's FAX or electronic mailbox. The new service is customized to gather strategic business news from thousands of financial and business press sources, according to each user's individual needs. Subscriber tells the service which topics to monitor, e.g., products, industries, and companies. The information is then transmitted to the subscriber on a weekly basis. *Western Union News Bureau, One Lake St., Upper Saddle River, N.J. 07458* **Circle 48**

Exercise relieves VDT operator stress

Operator stress and strain in today's VDT intensive environment is becoming a serious management problem. Simple, at-the-desk exercises can help relieve that stress, suggests Hamilton Sorter Co. Fairfield, OH.

It has developed a VDT User's Checklist which provides examples of proper positioning for the VDT screen, keyboard, and chair and includes a demonstration list of exercises designed to relieve strain in various parts of the body. The company also has an application/problem solving guide which can help you increase office productivity, better utilize floor space, or just improve aesthetics.

The furniture systems specialist is offering both booklets free; write: Jim Weisberg, Hamilton Sorter Co., 3158 Production Dr., Fairfield, OH 45014, and ask for the "VDT Checklist" and the "Creative Solutions for the Office Environment" booklets.

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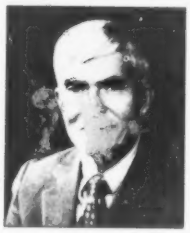
PW PREDICTS

Price spurt was seasonal

The early 1990 spurt in prices should be taken with a grain of salt.

Part of it represents little more than the impact of a frigid December, which temporarily impacted on the supply of a wide range of goods; another part has to be regarded as seasonal. Historically, many suppliers use the beginning of the year as the time to post price increases—only to see them fade before spring. And last but not least, there was last fall's temporary run up in oil prices.



A much better grass roots evaluation can be gleaned from buyers responding to the latest National Association of Purchasing Managers Business Survey Report. Their replies (summarized in a seasonally adjusted price index) show declines far outpacing increases for nine consecutive months.

Result: this seasonally adjusted yardstick is now showing nearly eight percentage points under the neutral 50 mark (where increases and decreases balance each other out). Reported as being lower over the latest month were aluminum, aluminum products, brass, copper, nickel, steel, steel scrap, stainless steel, zinc, corrugated boxes, printing paper, acetic acid, benzene, chlorine, ethylene glycol and ethylene derivatives, plastic resins, rubber, and a host of energy products.

Even the widely monitored industrial producer price index, which shot up early this year, suggests underlying price restraint. In any case, the government barometer has advanced only at a 3% annual rate over the past three months, once the volatile energy and food components are removed. That's a full percentage point under the increase of the previous three months.

All this has prompted the Fed's Alan Greenspan to comment that there is little evidence of underlying price inflation these days—certainly not enough to have any big upward impact on import tags. And even if it should, strong domestic and foreign competition for the U.S. market will keep things in bounds.

Then, too, the currencies involved in any dollar reevaluation have to be considered. More to the point, the dollar has been quite strong against most Asian currencies to the point that these nations are now the price leaders in many domestic markets. Upshot: only in the extremely unlikely event that these far Eastern currencies appreciate, would import prices rise significantly.

To sum up, the likelihood of zero inflation (now being bandied about) is still nowhere in sight. But odds do seem to favor continuing low inflation rates for industrial products through the year. Wharton Econometrics, for example, sees the overall industrial producer price index rising only 2.1% in 1990—less than half last year's big energy-driven jump.

Moreover, the relatively low, and in most cases decelerating, rates of gain are likely to be fairly widespread. Some of the typical increases (average 1990 *versus* average 1989) seen for some of the more important product categories: textiles and apparel (3.1%), refined petroleum products (2.4%), chemicals (−2.4%), rubber and plastics (−0.9%), lumber and wood (5.6%), pulp and paper (2.5%), nonmetallic minerals (2.3%), and transportation equipment (3.5%).

Moderation is also the order of the day when prices are viewed from a stage of processing vantage point. Crude materials, for example, are expected to show little change, intermediate materials a 1% advance, and capital equipment a 2.9% rise. But even the latter isn't bad when compared to last year's 3.8% increase.

The longer-term prognosis is upbeat, too. Wharton puts the overall industrial producer price index rise at 2.9% in 1991 (*versus* 2.1% this year). And even in 1992, when growth is expected to accelerate, the price increase is put at around 4%.

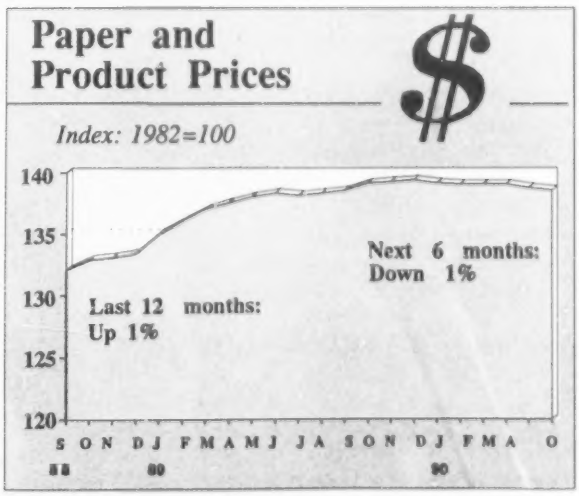
Paper prices drift down

CURRENT SITUATION: The sluggishness of 1989 is spilling over into early 1990. In a nutshell, the industry is facing downward drifting operating rates, soft demand, weak profit margins, and substantial price weakness. Unbleached kraft linerboard quotes (listed at $410/ton) are being discounted to $385/ton. **And end-product corrugated is also beginning to soften.** Other areas of easiness include white papers (both uncoated and coated), and market pulp. **One product bucking the trend: coated boxboard.**

DEMAND: Just so-so GNP activity will limit 1990 paper and board consumption gains to around 1.5% (though a reduction in imports and an increase in exports could push the production advance nearer to 2.5%). Corrugated box shipments will also show only a 1.5% gain, and under the 3.4% and 1.8% advances of 1988 and 1989, respectively. **Generally speaking, the second half should be stronger than the first half.**

SUPPLY: Excesses will persist for some time as new production potential exceeds output. The American Paper Institute, for example, sees capacity rising 3.1% this year, with even bigger 3.7% and 3.3% boosts projected for 1991-92, respectively. Upshot: average annual gains of 3.4% over the next three years—a full percentage point over the estimated demand gains.

PRICE OUTLOOK: Further erosion seems likely as market imbalances persist. About a 2-3% decline is seen from now to year end, but some lines could be off a lot more than that. On an average basis (1990 *vs.* 1989), taking into account recent sharp declines, the drop could be quite substantial—as much as 10% in containerboard, market pulp, and uncoated free sheet. Coated papers (also calculated on a year-over-year basis) could be off as much as 5%. **And further declines are possible next year**—particularly in the market pulp and coated free sheet sectors.



Low demand softens steel

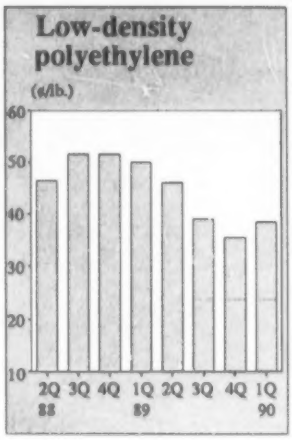
Price weakness persists with a beginning-of-year 3% increase in sheet products washing out, and no bounce-back anticipated. The composite price is expected to average out at only $520/ton this year—a bit under the $534/ton peak hit last summer. Low demand is behind the softness. This year's total shipments, for example, look to drop about four million tons (to only about 79-80 million)—a figure that will keep the industry operating rate down in the 81% range (some four percentage points under last year's average).

Short-term price of copper rises

The red metal has rallied from its winter low by adding more than 15¢/lb. onto its price since mid-January. Behind the run-up: an improvement in short-term fundamentals. Longer term, however, the prognosis is still for relatively easy prices. The market is expected to gradually move into oversupply as more production reaches the market over the year. Result: prices will again head down—with the overall average for the year likely to drop into the 85-95¢/lb. range—well below the $1.30/lb. 1989 average.

Polyethylene is on the rise

Another round of price hikes is beginning to take shape—with the industry pushing for a 3¢/lb. boost



in high- and low-density types. That's over and above recent 39-41¢/lb. levels. But whether these increases stick is questionable. For one, ethylene feedstock tags are expected to drop. Then there's excess capacity—particularly in LDPE where operating rates, this year, are expected to hover in the low 83% range.

High integrated circuit prices

Dynamic RAMs may be a bargain. But prices in other areas are edging up—with the average selling price for all ICs expected to reach $1.44 this year (*versus* $1.40 two years ago). And by 1992, the price could jump all the way to $1.61. The new estimates by Dataquest are basically due to technology advances that permit increased productivity. So it's not all that bad. Put another way—while tags are up, the buyer should continue to get a lot more for his dollar. Another Dataquest projection: the crossover point for the price-per-bit curves of 1-Mbit and 4Mbit DRAMs will occur as early as this fall.

Energy stays under control

Energy costs should remain under control in 1990 and in 1991, according to a new Department of Energy projection, which sees fractional to only moderately higher tags for most key products over this period.

The new forecasts are based on the assumption that imported crude oil quotes will average out near $18/barrel, fractionally below the $18.75/barrel peak of last year. Another hold-the-price-line factor could be relatively small demand gains, with average energy consumption rising only 1.3% this year and 1.7% in 1991.

If you zero in on oil usage, the gains are even smaller than that: practically no demand change this year and only about a 1% boost in 1991. On the other hand, electricity use gains should accelerate (to as much as 3.2% a year *versus* 2.0% in 1989).

Based on that, here's how prices seem to be shaping up in the various energy sectors:

Gasoline: pump tags should rise a few cents/year—reflecting 1) the near-$2/barrel boost in crude over the past year, and 2) higher refiner and tax costs.

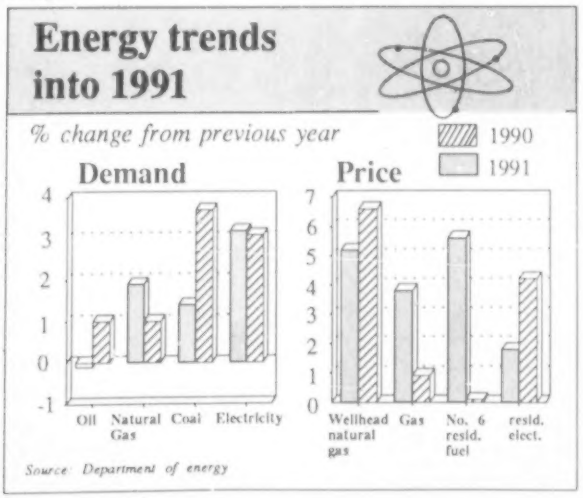
No. 6 residual oil: some seasonal declines from the $18.55/barrel first quarter 1990 high are anticipated—perhaps to around $16/barrel by the second quarter. Next winter (assuming normal weather) will see some bounce-back—but to only around $18/barrel.

Natural gas: wellhead increases over the next two years (5.2% and 6.6%) reflect some increase in demand and somewhat better market balance. Don't expect any big spurt as competing oil acts as a price-rise inhibitor.

Coal: ample supplies, plus the recent Pittston strike settlement, should keep a lid on prices. Utility grades should rise about 2% this year, and only at a slightly higher 3.4% pace in 1991.

Electricity: price increases will be quite moderate this year (1.8%, residential basis), though sharp seasonal swings are again seen. But some acceleration is likely next year, as recent boosts in fossil fuel costs are passed along.

Energy trends into 1991



Source: Department of energy

New trend in buying plastic

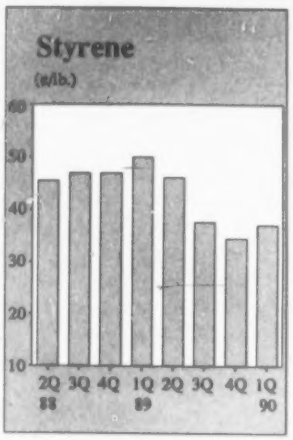
Nationwide networks may be the wave of the future. A new Kline & Co. report sees this trend as beneficial—leading to improved efficiency and versatility. There are big pluses for buyers, too—namely convenience, one-stop shipping, flexible delivery, mixed material shipments, expedient service, and competitive pricing. Another Kline prediction: PMs will be buying 11-12% of their total supply from these middle men by 1994—more than double the 5% share of last year.

Zinc takes bullish turn

The market has taken a bullish turn after a 10-month slide which ended early this year. Current prices are up near 70¢/lb.—5¢/lb. more than in early February. To be sure, there's ample metal to go around. But production problems, such as the temporary closing of a British Columbia plant and start-up problems in a new Alaskan facility, are having an impact. Demand remains soft, however, reflecting poor sales in the auto and die cast industries. Indeed, if demand doesn't pick up, prices could again begin to ease.

Styrene supply to increase

The recent run-up (from 33.5¢/lb. last fall to 36.5-38.5¢/lb. currently) may be



about over. Reason: planned increases in production and capacity. The latter should rise to 9.23 billion lb.—up 8% from last year. This, in turn, suggests a drop in operating rates to near 93% (down four percentage points from last year.) This, plus an increase in imports, means increasing supplies and perhaps price slippage to near 32¢/lb. by the third quarter.

Hike proposed in postal rates

The record 19% average increase proposed for next February reflects lack of progress in automating Postal Service operations. But whatever the reason, be prepared to pay 30¢ for a first-class stamp, $9.75 for Express Mail and 17% more, on average, for third-class mail. The basic Parcel Post rate moves up 14¢ (to $1.57). The boost in third-class mail is expected to accelerate a shift away from this mode toward alternate delivery services, including privately owned mailing operations.

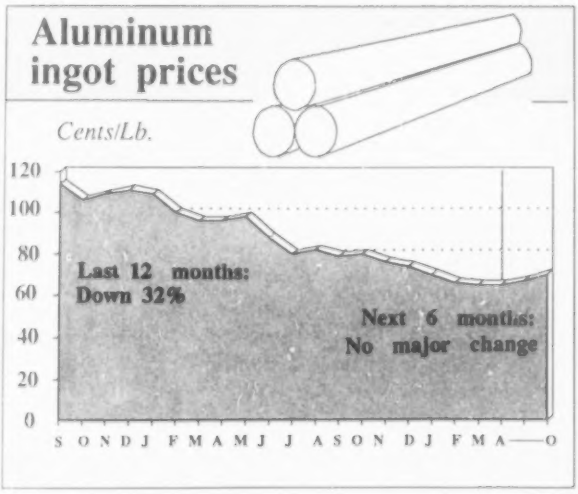
Aluminum under pressure

CURRENT SITUATION: Relatively disappointing demand, coupled with nearly full capacity production, is helping to put downward pressure on prices. Bellwether ingot is now hovering in the mid-60s range, far from the $1/lb.-plus levels of late 1988-early 1989. Flat-rolled products have also softened substantially. In sheet, transaction quotes have dropped about 30% from 1988-89 peaks as seven separate 5% discounts are offered. **Weakness is said to be most pronounced in common alloy sheet.**

DEMAND: The prognosis is for basically a flat tonnage year—primarily because of expected poor performance by the big transportation and construction markets. In any case, **the industry will be hard pressed to top last year's 17.25 billion-pound shipment rate.** One bright spot is beverage cans, where sales should surpass 86 million units in 1990 (up 4% from last year). Long-term growth is put at approximately 2% a year. Packaging will continue to lead this advance, though car use should also grow from 157 lb./vehicle last year to near 200 lb. by the 1995 model year.

SUPPLY: No problems are anticipated—as North American producers continue to operate at near-full-capacity levels. Add in strong foreign production—and Western world supplies (output plus net imports from the East bloc) should exceed demand. Upshot: **inventories are expected to rise for the third consecutive year, though any excess is expected to be quite modest.** The long-term supply situation also points to a tendency toward balance rather than any huge metal glut.

PRICE OUTLOOK: Ingot is probably down near its floor. But the basically bearish fundamentals (including still-all-out production) would seem to rule out any meaningful near-term rally. Also indicative of a competitive market is Alcan's decision to shelve its transaction price method which involved early posting of the next month's ingot and extrusion billet price level.



Nickel demand, supply balance

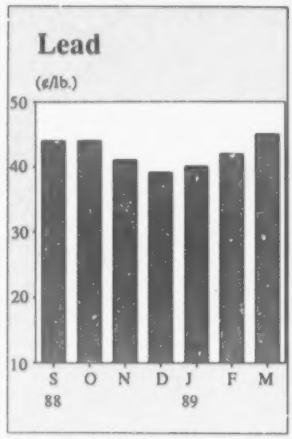
Prices are moving up as major producers announce production cuts. Another bullish factor is an increase in stainless orders—both here and in Europe. Prices have advanced 75¢/lb. since the beginning of February. And the metal is likely to hold onto its gains as supply and demand remain in balance. Thus, virtually all of the 1.44 billion lb. of metal expected to be produced this year (1.42 billion lb. to be exact) is projected to be consumed.

Machinery tags show softening

Lackluster demand is putting a lid on capital goods prices. Overall machinery and equipment tags, for example, are expected to rise only 2.5% this year--*versus* 3.6% in 1989. Machine tool makers, in particular, should find it hard to pass along hikes as orders lag year-ago levels. Softness is also spreading to the truck area where discounts are now reported. And they're likely to continue as medium and heavy truck purchases fall off 2-5% and 10-20%, respectively.

Lead marks slowing demand

The heavy metal has turned a bit more buoyant over the past few months, as some 5¢/lb. is added to the producer asking price. But with demand far from robust, tags should soon begin to top out—probably when some of the recent production problems at a few facilities are resolved. Then, too, the sluggish demand pattern is likely to persist—primarily because of the mild winter.



Polypropylene pushes boosts

An earlier 3¢/lb. increase has failed to stick. And while another try is in the works, it's doubtful whether fundamentals will permit it to hold. Specifically, the industry is anticipating a flat demand year—all at a time when capacity is slated to increase upwards of 6%. Upshot: operating rates should drop into the mid-70s.

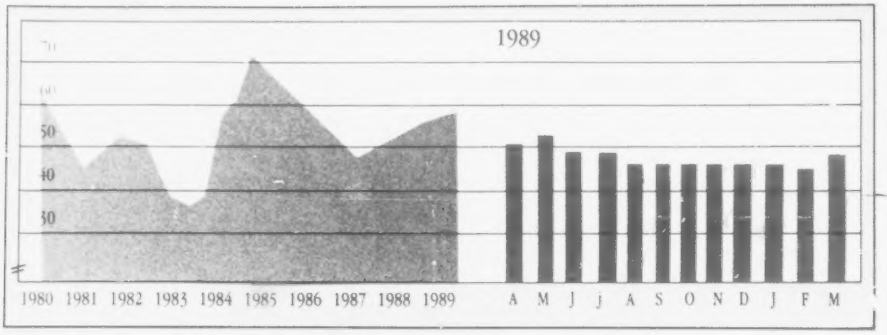
Computer costs are falling

After correcting for improved productivity, PCs are off 10% from a year ago. And further declines are likely—as Apple drops some prices 10-17% and Sun plans summer introduction of barebones RISC workstations for just $5,000. Second-hand computers—many available at half the price of a new unit—could also be a price depressant.

BUSINESS DATATRAK

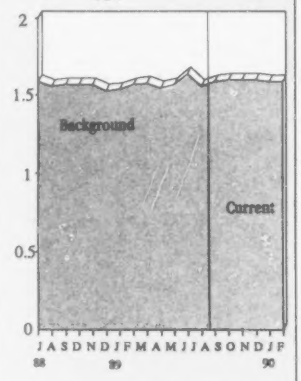
N.A.P.M. business barometer

Based on five indicators (employment, inventories, new orders, production, vendor performance)

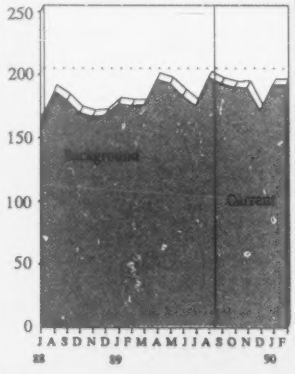


Leading indicators

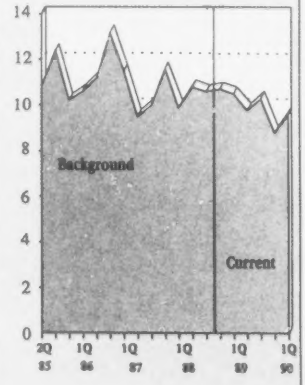
Inventory / sales ratio
(all mfg.)



Industrial distributor sales
(Index : 1977 = 100)



Auto sales million units
(Seasonally adj. annual rates



KEY ECONOMIC TRENDS

Looks can be deceiving

The numbers coming out of Washington these days may not look all that robust, but looks can be deceiving.

For one, the recent slowdown can be traced, in large part, to disappointing auto activity. Remove autos from final demand, and the trend is still basically up.

The auto buying pattern may be changing, as increased dealer incentives begin to move vehicles again (see chart). It indicates that families still have the purchasing power and desire to buy big-ticket items, provided the deal is sweet enough.

In any event, auto sales are now outpacing auto production, bringing car inventories down near normal levels. Conclusion: Detroit is almost certain to build more cars in the second quarter—enough to add more than a full percentage point onto the overall growth rate.

While on the subject of inventories, it should be pointed out that today's relative balance applies to a lot more than just autos. Take a look at the all-manufacturing stock/sales ratio (see chart).

It's now well below the peak of 1989, and surprisingly low in this late stage of the general business cycle. This should pave the way for new orders to be quickly translated into new production.

But perhaps the most heartening sig[illegible] the bottoming out in the National Association of Purchasing Management's Business Barometer, a yardstick designed to project industrial production a few months down the pike. It moved up three full percentage points during the latest reported month (see chart).

The bounceback in industrial distributor sales (another grass-roots manufacturing indicator—see accompanying chart) also points to better days ahead, suggesting that factory managers are beginning to lay in more MRO items—something they have traditionally done when they felt activity was ready to turn up again.

Most economists also seem to be optimistic these days. A new survey by the National Association of Business Economists finds that three out of five members are betting that the economy will avoid recession through 1992.

That's virtually unchanged from their appraisal three months earlier, when a similar question was posed. Obviously, these analysts have not been too disturbed by the recent spate of poor statistics.

In any case, the association's median GNP growth projection for the current year is put at 1.7%—about the same as that issued by the Congressional Budget

Office. Actually, this kind of figure is really not much under last year's 2.4% advance, provided you discount 1989's agricultural rebound from the 1988 drought.

So it looks like there's enough strength for the economy to get through its eighth straight year of gain. Production increases will hardly be spectacular, but by summer—if everything goes well—output could rise at a fairly respectable 2-3% annual rate (*vs.* about 1% in the quarter just ended).

CURRENT PRICES

Industry numbers leveling off

Chalk up another disappointing month on the industrial price front, as Uncle Sam's price watchers report considerably more increases than decreases. But the worst may be over, with prices likely to level or even drop in the months ahead.

This is certainly true in energy, where the latest round of price increases—in gasoline, home heating oil, and residual fuel oil—are basically pass-throughs of earlier crude oil increases. But since crude is now easing, the above refined products should soon be softening, too.

The same is true for some of the nonferrous metals. Copper, lead, and zinc all moved up appreciably in recent months. But a look at basic supply/demand fundamentals would seem to suggest that the worst is over, especially if the current sluggish GNP growth pattern persists.

Other areas where recent large advances are not likely to be repeated include aircraft engines, auto parts, bearings, and internal combustion engines. The latter, for example, rose more than a full percentage point last month, but is projected to level off over the remainder of the year.

The big increases in bearings (two full percentage points) are also not likely to be repeated. Ditto, similar increases in hand tools.

Also on the optimistic side is the slowdown in overall machinery price boosts. Capital equipment rose only 0.2% over each of the last few months—probably a reflection of a leveling off in demand after some rather impressive 1989 gains.

Construction materials could also have trouble racking up meaningful price hikes. Ditto, chemicals and plastics, where some of the early 1990 increases already seem to be in trouble.

Still other reassurances that industrial prices are under control comes from indexes which remove the volatile energy and food components. Increases over the past month in these more meaningful yardsticks of underlying inflation continue quite modest—0.1% for intermediate goods and 0.2% in the case of crude materials.

Leasing marks continued growth

Equipment leasing is still on the rise with another 7.5% increase anticipated for the current year, when nearly $132 billion in funding is expected to be earmarked for this alternative to outright purchase.

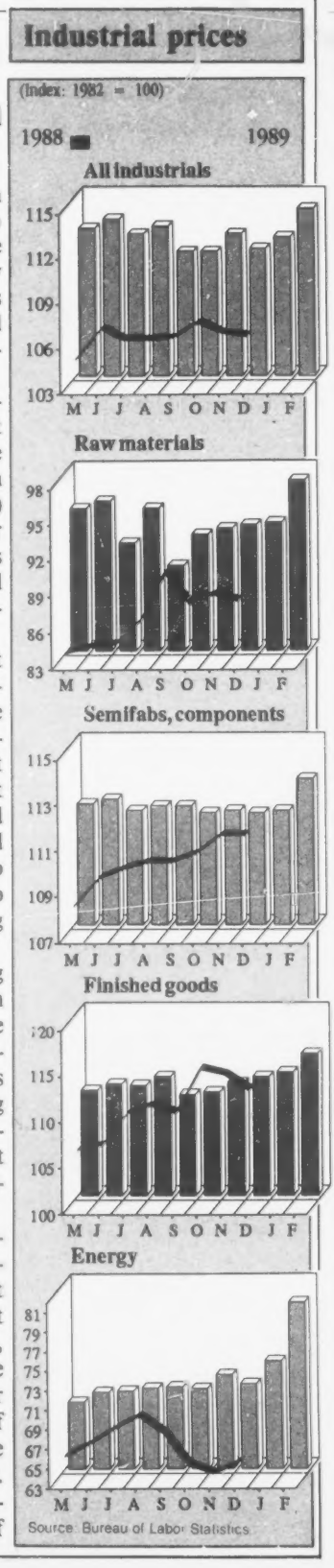
New Commerce Department estimates also suggest that growth is due to more than just an increase in overall (lease plus purchase) equipment investment. For over a decade, leasing gains have consistently outpaced increases in overall equipment spending.

The study also points out that areas getting the biggest play will continue to be data processing, telecommunications, and aircraft equipment. The recent trends toward value-added and more customer-focused strategic direction will also persist—as lessors strive to differentiate their leasing products.

Another continuing trend: a move away from tax-oriented general finance business. Strong competition and narrow margins are forcing more leasing companies to focus on operating efficiencies, market forces, and strategic planning.

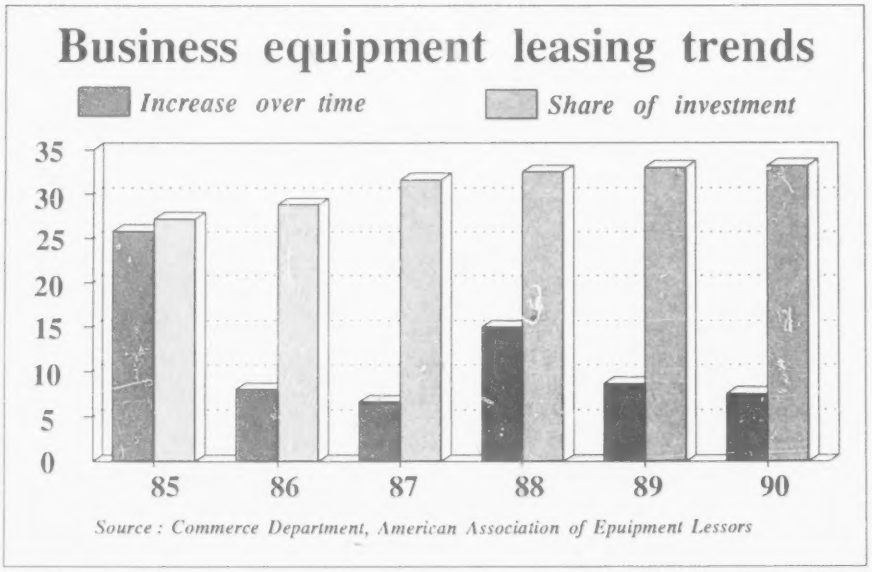
The recent decline in leveraged leasing is also expected to persist (a direct result of the tax reform act of a few years ago). Also, operating leases (where ownership does not transfer to the lessee at the end of the lease term) will continue to show the biggest growth.

Nor is there any indication that the popularity of



leasing is about to fade over the early 1990s. As the Commerce Department sums it up, "Rates of growth may vary by industry; but manufacturing, medical, data-processing, communications, aircraft and other transportation sectors will continue to be strong. Leasing will remain very attractive in the high-tech areas; however, opportunities in non-high-tech sectors will exist as well."

Also worth noting: the likelihood of increasing competition from foreign lessors—as they continue to enter the U.S. market, predominantly through the acquisition of established leasing companies.



PROCUREMENT STATUS REPORT

Leadtimes continue to shrink

What a difference a year makes—early last spring, leadtimes were way out. The list of items in short supply was long, running the gamut from basic metals like steel and copper to highly sophisticated electronics and other component parts.

Not so any more. Leadtimes are off *vis a vis* a year ago for well over half of the products monitored by *PurchasingWorld* on a regular basis. And they are still heading down, as *PW's* exclusive leadtime index racks up another month where shrinkages exceed extensions.

The National Association of Purchasing Management supplier delivery index (where anything under 50 indicates speedups) confirms this trend. The latest reading (43.3) is down more than four percentage points from the previous month, and ten percentage points from year-earlier readings.

One key reason: a still-growing supply glut. Industrial production in the first quarter barely finished in the plus column, while new capacity continued to come onstream at a near-3% annual rate. Upshot: the average factory operating rate is now around 81%—three percentage points under a year earlier.

Not surprising, items on NAPM's short supply list continue to dwindle. The only items of note are bearings, castings, electric motors, and a few chemicals. The latter, however, should prove short-lived, as new supplies come onstream.

And as expected, more purchasing managers (57%) are buying production materials on a hand-to-mouth or 30-day basis. A year ago, it was the other way around, with nearly half of the respondents ordering *more* than 30 days in advance.

The ample supply is also permitting PMs to live on smaller inventories. The NAPM inventory change index has been falling for 15 consecutive months, and the latest reading (more than nine percentage points under the neutral 50 mark) is at the lowest level in over three years.

Commenting on the above, one PM observes that his buying leverage is now at its highest level since 1982, when the economy first began to come out of the last recession. This top buying executive sees the trend continuing for another six months, after which he sees a gradual return to more balanced markets.

Plant managers are optimistic

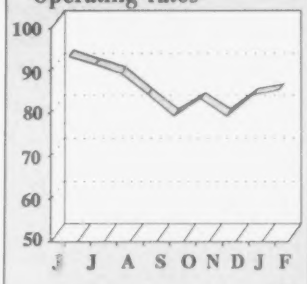
The nation's plant managers are not buying talk of 1990 stagflation. Their basic projections for the next 12 months: continuing new order and production gains, combined with reduced upward pressures on costs and prices.

That's what some 1,500 managers, replying to a new Dun & Bradstreet survey, are saying. Their specific projections for the current year, expressed in terms of so-called "optimism" indexes (percent of respondents expecting increases less the percent expecting declines):

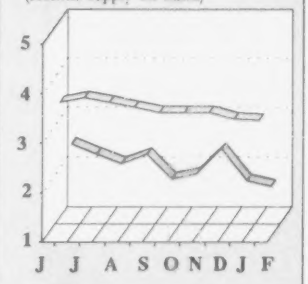
• **Unit costs:** the index here has dropped to 41—some 14 percentage points under year-earlier readings. While obviously a zero reading would be better (those expecting decreases balancing out those looking for increases), it does seem to indicate somewhat better

Steel

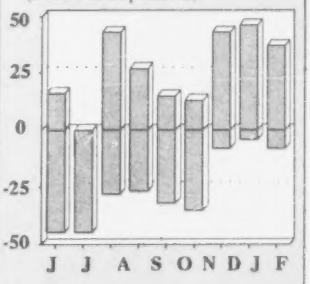
Operating rates



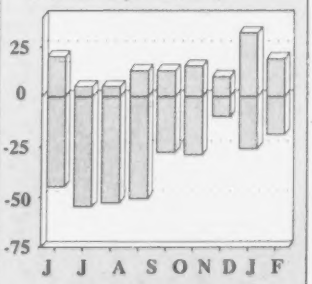
Inventories
(Months supply on hand)



Demand (STEEL SERVICE CENTERS)
(Percent of respondents)



Demand (STEEL BUYERS)



Source: Steel Service Center Institute
NAPM Steel Buyers Committee

control on the cost side of the equation.

Also worth noting: the latent unit cost figure is the lowest since statistics on this key variable were first tabulated in 1988.

• **Price trends:** as might be expected, the pattern here is similar to the one described for unit costs. The index reading of 46 is off 13 percentage points from year-earlier peaks. And again, it is the lowest figure since this series was developed.

• **Demand outlook:** both new order and production yardsticks have slipped a bit. But with both at 56, further—albeit smaller-than-1989 demand advances—would seem to be all but certain.

STEEL SCENE

Mixed signals cloud picture

The steel picture has turned somewhat mixed these days.

On the plus side are 1) the guarded optimism of distributors responding to the latest Steel Service Center Institute (SSCI) survey and 2) relatively low inventories—especially on the part of steel buyers. On a less bullish note, PMs don't see any real pickup in their steel purchases anytime soon.

The 19% who do anticipate increases over the next three months are balanced by a similar 19% who feel declines may be in order. And the remaining 62% see little meaningful change.

This conservatism may, in part, be due to the fact that PM inventories, which are now at a low 1.65 month level, may drop even lower. One indication of this is expressed by the 31% who feel their stocks are still high relative to demand—almost five times as many as the 7% who think inventories are now on the low side.

This inventory restraint is also apparent on the service center front. The same near 5 to 1 ratio shows up in distributor ratings of current stocks. Specifically, 43% rate them as too high while only 9% feel they're too low.

SSCI president Andrew Sharkey observes that "while inventory levels for all products are now largely in balance, many of our members still think they are too high. And given the continued uncertainty in markets, we do not anticipate any signficant new buildup."

As noted earlier, though, these same service centers anticipate some increase in business from their customers (the steel end users). True, the gap between those projecting order increases and those projecting order decreases has narrowed a bit. But it's still quite impressive.

Tempering service center optimism, however, is the fact that member shipments continue to lag year-ago levels. And most distributors add they'll be hard put to equal 1989 tonnages over the current year.

This lack of any real big upward push is probably behind service center expectations of relatively soft prices. Their response to a question on where steel replacement costs will be six months from now tells the story. Some 43% say they will pay less *vs.* only 5% who feel they may have to pay more.

It should be pointed out, however, that the overwhelming majorty of service centers who expect price erosion, see it as being relatively modest—in the 2-5% range. This limited forecast, incidentally, is confirmed by the latest Wharton Econometric projection which puts this year's average quote a few percentage points under last year's peaks.

The latest steel reports also suggest relatively little import competition. Thus, while 36% of surveyed buyers say imports are lower in price than comparable domestic offerings, all add that the differentials are slight.

Service centers add further confirmation here—with only 16% noting a foreign price advantage in carbon steel. That's actually a bit under the 20-22% figure noted during the first two months of the year.

About the only real import bargains, according to distributors, are in the

Import prices
(compared to domestic)

Steel buyers
ABOVE 32%
SAME 32%
SLIGHTLY BELOW 36%
SUBSTANTIALLY BELOW 0%
SERVICE CENTERS (carbon)
ABOVE 2%
SAME 82%
5-10% BELOW 16%
10-20% BELOW 0%
OVER 20% BELOW 0%

stainless steel area where a significant number (45%) say they can get overseas price breaks. And 15% of these put the advantage in the relatively high 11-20% range.

On the availability front, buyers have few concerns. Indeed, four out of five see problem-free buying in the spring and summer. The only concern voiced—and it's quite scattered—is in coated sheet. Elsewhere it looks like smooth sailing.

This month's breakdown

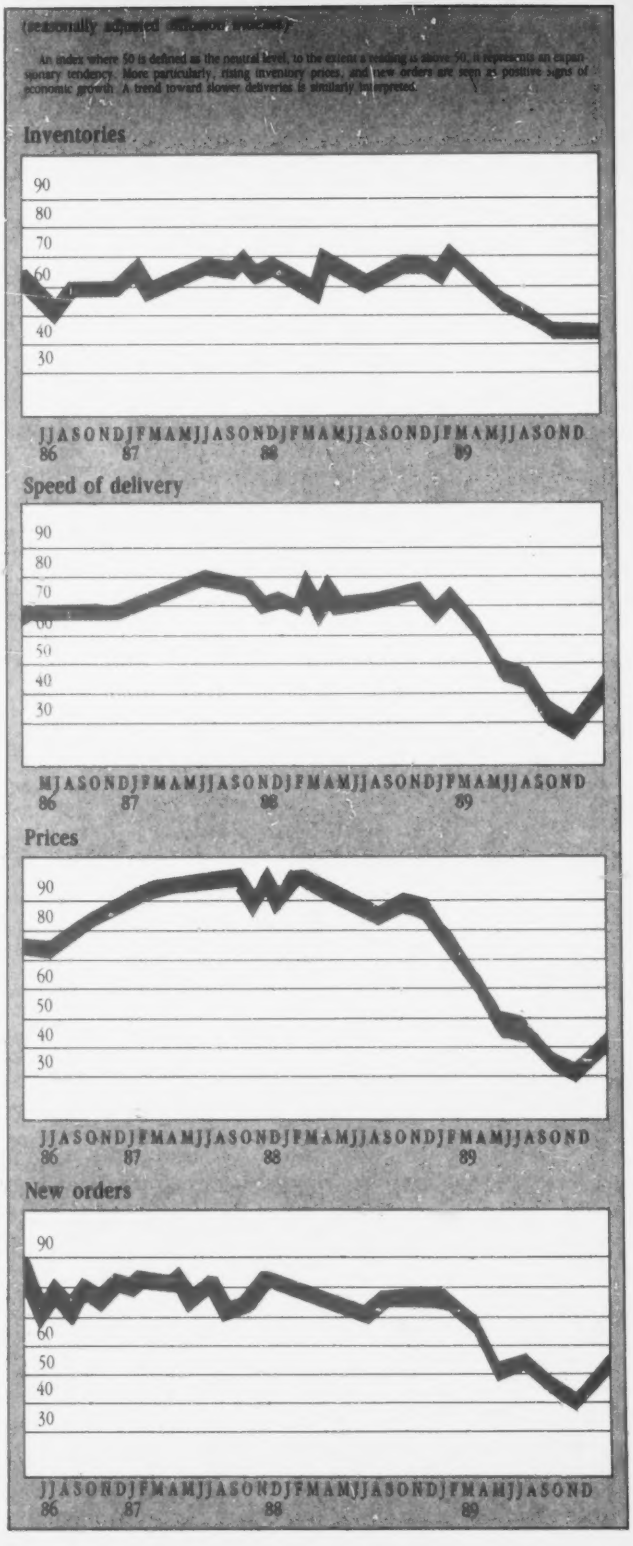
Index: 1982 = 100

	Latest level (Jan.)	% change from: Month ago	Year ago
Bearings	128.2	2.0	6.7
Bolts, nuts, etc.	115.0	0.2	5.3
Chemicals, inorganic	110.9	0.4	3.7
Chemicals, organic	110.4	−0.9	−8.2
Concrete products	112.0	0.2	1.4
Corrugated cartons	112.2	−0.3	0.3
Cutting tools, small	112.7	0.2	3.4
Electric lamps (bulbs)	130.3	−0.9	5.3
Electronic components	119.3	−1.1	0.3
Fans and blowers	122.2	0.7	4.9
Foundry and forge products	115.1	0	2.0
Fuel oil (residual)	57.4	10.4	36.3
Furniture, commercial	131.7	0.7	3.8
Gasoline	69.0	13.9	24.5
Glass, flat	109.3	0.8	−1.5
Glass containers	117.9	1.7	5.0
Gypsum products	106.6	−2.2	−4.2
Hand tools	131.8	1.8	5.9
Hand tools, power driven	120.6	2.5	4.3
Industrial furnaces	126.0	0.4	3.2
Integrating and measuring instruments	124.2	1.0	6.7
Internal combustion engines	117.6	1.1	4.3
Lubricating oil	110.5	−1.3	3.1
Lumber millwork	129.0	0.3	4.5
Material handling equipment	113.5	0.3	3.7
Metal containers	112.4	−0.6	2.1
Metal mill shapes (nonferrous)	131.2	0.5	−6.7
Metal tanks	112.2	0.6	4.0
Motors and generators	131.4	0.6	3.7
Motor trucks	131.2	−1.9	0.2
Office and store equipment	110.9	0.4	1.7
Paperboard	138.8	−0.6	0.8
Paper boxes and shipping containers	131.3	0	3.4
Paper office supplies	121.0	−0.6	1.1
Paint	122.7	1.1	5.4
Plastic resins	120.7	−1.6	−14.0
Precision measuring tools	126.9	1.3	3.1
Pumps and compressors	117.0	0.6	3.8
Refractories	120.5	0.7	2.0
Rubber belts and belting	116.3	0	7.5
Scales and balances	107.8	0.1	1.8
Steel products	113.5	−0.4	−0.3
Switchgear	121.8	1.2	4.3
Textiles, synthetic fibers	107.2	0.3	6.6
Textiles, gray fabrics	117.9	0.3	2.1
Tires and tubes	97.1	−0.1	1.3
Transformers and power regulators	119.8	1.2	5.3
Welding equipment	124.0	0.3	3.1
Wire and cable	141.7	−0.7	−5.2

NAPM procurement trends

(seasonally adjusted diffusion indexes)

An index where 50 is defined as the neutral level, to the extent a reading is above 50, it represents an expansionary tendency. More particularly, rising inventory prices, and new orders are seen as positive signs of economic growth. A trend toward slower deliveries is similarly interpreted.



Office equipment:

Buyers' market to continue

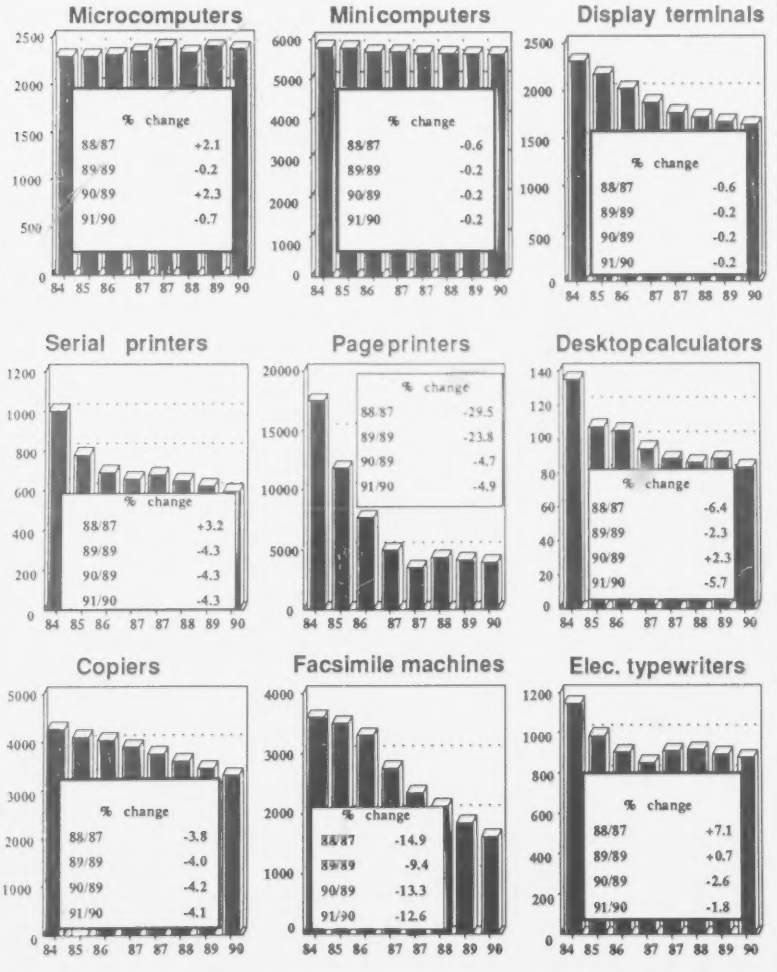
Figure on a continuing buyers' market in office equipment as 1) demand gains slow down, and 2) technological advances and competition force prices down.

There will be a few exceptions to the demand lull, most notably in fax machines, computer software, and some types of printers. But even in these areas, gains won't be as healthy as they have been, both for the current year and the entire decade.

Decelerating demand increases doesn't mean the industry is about to flatten out. Quite the contrary. Relative to GNP, office equipment is still considered one of the nation's top growth sectors.

Office equipment price trends

Unit price (dollars)



Take a look at the just-released Computer and Business Equipment Manufacturers' Association (CBEMA) projections, which put this year's dollar advance at a solid 10.4%—with the average increase over the decade ahead expected to average out at a slightly lower 9.7% rate.

Coming back to prices, as impressive as the above demand numbers are, they won't be enough to halt the steady price slide of past years. Indeed, all signs point to continuing erosion in list and transaction quotes.

Comparison of CBEMA dollar and unit figures suggests that average unit tags on most types of equipment will fall again this year. Thus, of nine key product lines detailed in the accompanying chart, seven are expected to sport unit price declines this year.

And in many cases, these figures underestimate the actual drop, as technological improvements provide more productivity for each dollar spent. A case in point: last year the unit price of personal computers (PCs) dropped by a little more than 2%. Yet an experimental government index, which takes into consideration the ever-rising productivity of these PCs, declined by 10%.

Further evidence of computer price softness continues to crop up on an almost daily basis. Witness IBM's new line of workstations, which start at $13,000 ($2,000 less than projected earlier) and are said to have price/performance ratios several times better than machines currently being offered by competitors.

Nor is the good price news (from the buyers' view) likely to change soon. All nine business equipment categories singled out by ***PurchasingWorld*** are expected to show price declines in 1991.

The sharpest unit price declines will continue to be in fax machines, where this year's expected 13% drop will be followed by an average 8% annual decline over the next decade. It means that some low-end machines could be selling for as little as $400 by year end or early 1991, and a lot lower than that by the mid-1990s.

Prices are also beginning to fall on new and improved faxes. Several vendors are now dropping tags on plain-paper machines which produce better tactile quality results, with less paper curl and fade. And before too long, you'll be reading about color models and Group 4 equipment (high-speed, high-resolution types which use digital transmission technology).

There's also growing interest in color copiers, now that prices are beginning to tumble. More than a dozen vendors now offer these machines, as tags on some of the lower-end models drop as low as $6,000.

Generally speaking, less expensive copiers (in the $6,000-25,000 range) are more than adequate for business applications where super-high color quality is not absolutely necessary.

And all the above is just a beginning when it comes to "new and improved." Even the old reliable PC is being threatened by something new (the so-called "X" terminal. Unlike the PC, it doesn't actually perform computer functions, but is part of a computer network with the work done by a separate central unit.

Bottom line is the X terminals cost far less than advanced PCs ($2,500 *versus* $5,000 or more for an advanced PC). Another plus is, they can be controlled from a central location, facilitating overall data management.

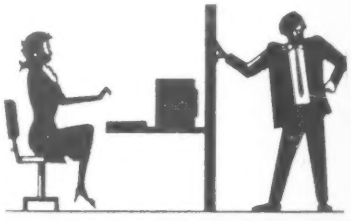
Also worth noting is the likely development of read/write compact disks, which have the capacity to store huge amounts of information and render current hard disk technology obsolete.

Behind these and all the other price and product developments is a combination of factors, including impressive technological advances, a need to improve office productivity, and possible shortages of entry-level office workers and data processing personnel.

Whatever the driving force, office equipment procurement will continue to eat up a growing percentage of the typical firm's purchasing dollar. All told, CBEMA estimates that the computing and business equipment industry will ship more than $286 billion this year—more than double the level of just seven years ago. And if you add in telecommunications sales (which most people consider part of the information technology industry), the figure zooms to more than $500 billion.

Keeping all the above in mind, here's how some key segments of this crucial and still-growing industry seems to be shaping up, both over the current year and through the coming decade:

• **Microcomputers:** look for some near-term growth deceleration. This year only 6,915,000 units are expected to clear the market, just 4% more than 1989. That compares to last year's much larger 11% gain. But an 8% advance is seen for 1991 as general business conditions improve. Long-term gains (through the year 2000) should also average out in the 8%-plus range.



"Office equipment is still considered one of the nation's top growth sectors."

Unit prices will tend to decline by about 1% annually. But as indicated earlier, real price declines—which factor in productivity gains—should be a lot more impressive.

• **Minicomputers:** one of the few areas likely to end up in the minus column this year, as sales drop 5% (to 157,300 units). Modest gains should resume over the long pull, with unit sales rising about 5.8% a year over the decade. Unit prices are expected to remain relatively unchanged.

• **Mainframe computers:** very modest growth is anticipated as improved, smaller, and less expensive computers meet the needs of more and more firms. All told, unit shipments will advance only 1% this year and at a slightly faster 1.9% pace over the next decade.

By the year 2000, mainframe's share of the computer market (in dollar terms) will fall to 23%, *versus* 34% last year. Unit prices over this period are expected to remain relatively flat.

• **Disk drives:** unit price declines will be a fairly steep 7% this year. And over the longer pull, this downtrend is targeted to continue, with average annual declines put at 7.2% for floppy disks and 9.7% for hard disks. In terms of unit sales, hard disks will tend to show bigger gains, rising 14.3% at annual rate over the next decade, *versus* only 8.4% in the case of floppies.

• **Modems:** another fairly large (9.6%) unit gain is seen for the current year, on top of last year's huge (near 24%) advance. Prices will be off another 10%, too.

Looking at longer-term trends, unit shipments should increase at an average annual rate of 6.3%, reaching 4.9 million units in 2000. Average prices over this period will continue to fall sharply, thanks to less expensive technology and economies of scale in an expanding market. Expect to pay an average of only $185/unit by the year 2000, *versus* $505/unit this year. That's the equivalent of a 10%/year decline in prices.

• **Computer software and services:** continues to be the fastest growing of all computer and business equipment sectors, sporting a 17% dollar gain last year. And this comes on top of the previous year's huge 26.1% jump.

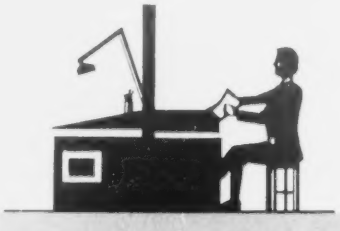
For the current year, CBEMA projects a 16% dollar gain—a figure that confirms Commerce Department predictions for a slightly larger

18% advance. Moreover, by the year 2000, average annual gains of 12.3% will bring billings to more than $286 billion—enough to make up 39.9% of the business equipment market (*versus* only 30.7% last year).

• **General display terminals:** although unit shipments are forecast to grow at an annual rate of 2.8% from 1989 to 2000, revenue is expected to peak in the mid-1990s and then decline. Reason: prices are continuing to drop as competition from microcomputers increases.

Lower manufacturing costs have permitted these price reductions. Unit prices of these terminals were $1,767 in 1988, and $1,720 in 1989, with a further dip to $1,670 expected this year. And by 2000, the average tag could be down around $1,400.

• **Line printers:** unit prices are forecast to fall about 2% a year through the 1990s. On the demand front, unit shipments could tumble to only 10,000 by 2000—94% under their 1985 peak, as page printers continue to take big bites out of this segment of the market.



"Office equipment will continue to eat up a growing percentage of the purchasing dollar."

• **Page printers:** thanks to continuing inroads into the line printer market, unit shipments will increase 19.5% a year over the next decade. Average prices over the period (reflecting technological advances) will drop about 6% a year. This, in turn, should also help page printers to capture a significant portion of the serial printer market as well.

• **Serial printers:** more modest growth (6.8% this year and 5.4% a year through the decade) is projected. This suggests sales of 11,645,000 units by 2000. Even so this won't be enough to prevent some erosion of market share—78% of the unit total last year to only 49% by the year 2000.

• **Calculators:** during the next decade, unit prices should continue their slow decline, averaging $32.61 in 1989 and $26.20 at the turn of the century. Unit shipments are forecast to continue growth—increasing by an average annual rate of 3.3% over this extended period.

The pattern of rising unit shipments and decreasing unit prices holds for both hand-held and desktop models. Hand-held models are expected to show annual price declines of 2.8%, with desktop units falling at a 2.4% annual rate.

• **Copiers:** fair-sized 5% unit gains are seen for the current year. Advances over the decade will be at an even slightly higher 6% rate, with increases spread equally among low-, medium-, and high-speed units.

Unit prices should continue to drift downward. CBEMA sees average quotes falling 4.2% this year and about 2.4% at annual rate over the longer pull.

• **Dictating equipment:** from now through the end of the century, unit shipments are projected to grow at a relatively low 0.8% annual rate. System units shipped during this span are expected to grow annually by 1.7%, portables by 0.8%, and desktops by 0.7%

Prices, meanwhile, will buck the general business equipment downtrend. Slight increases are forecast in all three segments of the industry, because of continuing enhancements to product functionality combined with a slow growth market which does not attract significant new competitors. Last year, desktops averaged $578—a figure which should advance to $592 in 2000. Dictating systems should jump from $3,496 to $3,607 over the same time span.

• **Facsimile equipment:** average prices fell 9.4% last year (to $2,121). Another decline of 13.4% is expected this year. Behind the sharp declines: increased competition, a rapidly growing market, declining costs for technology, and economies of scale. All this should continue, driving the average unit quote down to $982 by 2000 (the equivalent of an 8% annual decline).

Meanwhile, look for continued strong growth, with unit shipments rising 50% this year and 18% annually over the next decade. By the year 2000, annual sales should be approaching 12.5 million units—about four times what is expected to clear the market this year.

• **Manifold business forms:** dollar sales will be up another 5.2% this year, slightly under last year's 5.8% increase. And this trend should continue through the 1990s, despite growing use of computers and magnetic media. Reason: commerce and government continue to expand and people want and need "hard copy." By the year 2000, this market is forecast to be near $15 billion—nearly double the $8 billion figure of 1989.

• Standard office electronic typewriters: competition from low-end computers suggests an 8.7% decline in unit shipments this year, on top of the 5.3% and 6.5% drops of 1988 and 1989, respectively. Prices will fall again this year by about 2.6%.

Unit declines should persist (at a 3% annual rate) through the 1990s, as the price differential between low-end computers and standard electronic typewriters continues to narrow. The average unit price 10 years from now should drop to $735 (the equivalent of about a 2% annual decline from the average $915 price tag of last year.

• **Portable electronic typewriters:** further small declines in both units and unit prices are forecast for the current year, with the average quote expected to be off about 3.5% (to $259/unit). Fairly similar 3% average price declines are seen through 2000—as unit demand (hurt by rising computer literacy and falling PC prices) drops about 3.5% per year.

PW